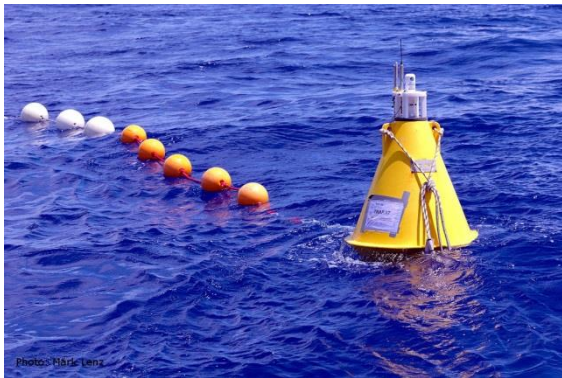


We have now finished our entire sampling programme and since four days we are on transit to our destination harbor Malaga, which will be reached by Wednesday afternoon or Thursday morning of the coming week. As already indicated in the last report, the third week of the cruise started with the sampling of an extra station at 34° 14.74'N/37° 00.76'W. We accomplished our activities there on the evening of September 2<sup>nd</sup> and then steamed to the south-east to pick up the sediment traps, which have been drifting for 4 days, in the morning of the following day. This went smoothly, since we had calm weather conditions and since the deck crew as well as the scientists were already familiar with



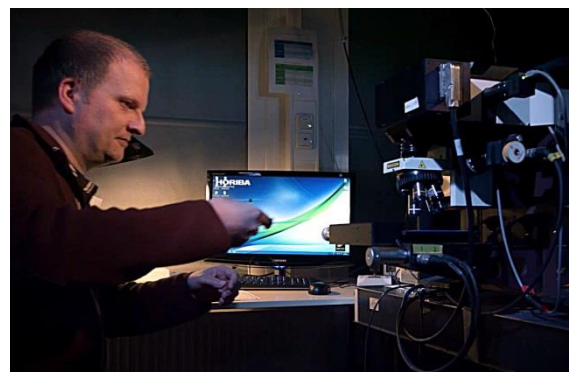
A yellow buoy marks the top end of the drifting construction that holds the sediment traps.

the procedure and worked together well.

As soon as the traps were on deck again, we finally left our work area and headed east-ward to collect another set of samples from the large ocean eddy, which we already passed by on our way from the Azores to the work area. Eddies are suspected of transporting drifting material from the coasts to the open ocean and may therefore play a vital role as vectors for plastic debris. For this reason, we paid

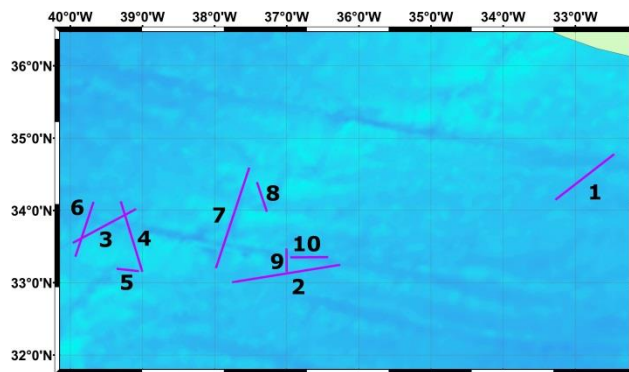
special attention to these systems. Initially, we hoped that we would be able to collect data from a different eddy on our way to Malaga, but it turned out that only this single system could be reached without threatening our time table. After the sampling was completed, we continued directly to Malaga and stopped all further activities such as the visual litter surveys, which we conducted from the foredeck of RV POSEIDON. All materials that we collected during the cruise will need further procession in laboratories back at GEOMAR, before we can report any results about the abundance of microplastics. First, we will need to separate the suspected microplastic particles from the matrices in which they are contained, e.g. sediment or the tissue of planktonic animals. Then, after the separation, potential plastic particles need to be identified using, for instance, Raman micro-spectroscopy.

The monitoring of drifting litter is the only sampling procedure that provided data, which we already could analyse while we are still on board of the research vessel. I therefore would like to provide a short summary of them: We covered a total of 10 transects, what corresponds to 50 hours of



Matthias Haeckel at the Raman micro-spectroscope at GEOMAR.

observations.

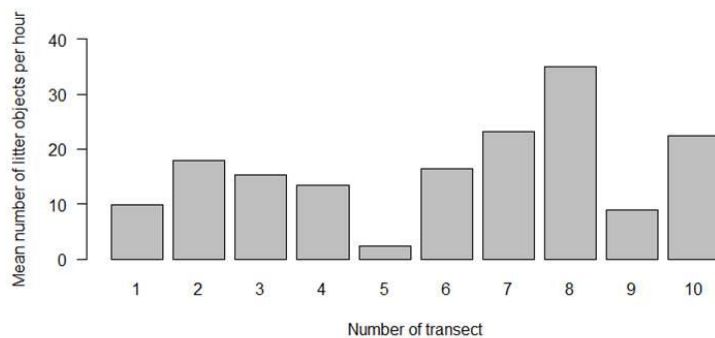


For the visual litter monitoring we covered 10 transects what equalled a total observation time of 50 hours.

During this time, we observed more than 800 objects of which 99% were presumably made from plastic. About 50% of these litter items were smaller than 5 cm, while only 2.5 % were larger than 50 cm. The small objects were mainly fragments, i.e. pieces that resulted from the breakdown of larger litter items.

Furthermore, the litter was not evenly distributed, since some transects had up to

20 times more drifting items than others.



Mean number of litter objects per hour across the 10 transects.

Our cruise will end by the mid of the coming week and I would like to thank the crew of RV POSEIDON for supporting all our scientific activities so greatly. It was a fantastic work experience that we all deeply enjoyed.

Mark Lenz (Chief Scientist)

